DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-003333
Date Inspected: 01-Jul-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 630
OSM Departure Time: 1530
Location: Shanghai, China

CWI Name: Zhao Chen Sun and Hu Wei Qing

CWI Present:	☑ Yes	☐ No					
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG and SAS Tower Fabrication

Summary of Items Observed:

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

Bay 4: Tower Diaphragm
This QA observed two fillet weld connections between tower diaphragm plate to diaphragm flange that have cracked tack welds removed remain the same as of this day. Fillet weld connection SSD1-SA27 A/B-8 has one tack weld still with visible crack and other tack weld gap opening became ~12.0mm due to grinding on the edge of the plate. Per ZPMC/QC, there was linear indication at the plate base metal that they chased during their Magnetic Particle Test. The other fillet weld connection SSD1-SA335-7 has six tack welds, four of them completely removed but still with remnants in between and two tacks just ground up to the plate level. On two locations wherein ZPMC removed cracked tack welds, there were new cracked tack welds found nearby. This QA also observed NSD1-SA322 A/B weld connection same as mentioned above to have 10.0mm gap in between diaphragm plate to flange. See photo below.

This QA Inspector randomly observed three ZPMC welders Li Meng Qian ID #054460, Shi Yan Hao ID #053605 and Li Shi Qiang welder 053609 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm

Flange Sub-Assembly WSD1-SA234 weld joints 4A and 6A and NSD1-SA335 weld joint 6B respectively. The QA Inspector randomly observed ZPMC CWI Zhao Chen Sun monitoring weld parameters.

Bay 7: OBG - Floor Beam Sub Assembly
The QA Inspector randomly observed ZPMC welder Liu Kai Ge ID Number 044830, utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H in the 3G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2233-Tc-U4-F, to weld fill pass on skewed connection plate (of 300mm x 300mm diagonal brace) to floor beam bottom flange Sub-Assembly SSD9-PP037-131. The QA Inspector randomly observed ZPMC QC Yang Ding monitoring weld parameters with the supervision of ZPMC CWI Hu Wei Qing.

The QA Inspector randomly observed ZPMC welder Hong Shuili ID Number 044815 and Chen Chuanzong , utilizing the FCAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-T-2132-3, to weld gusset stiffeners to the web plate on Floor Beam Sub-Assembly FB015-010 weld joints 015/016 and 010/012. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

SMAW(2F) fillet welding repair on stiffener to web plate on floor beam FB003-055 weld joints 049 and 037 due to undersize fillet using TL-508 electrode. ZPMC welder Hu Yacheng ID #049339 was observed performing the task and CWI Hu Wei Qing monitoring. Tack welding/fit-up of flange to web plate and multiple stiffener to web plate on floor beam FB032-001-113/114 and FB039-001 respectively this QA observed.

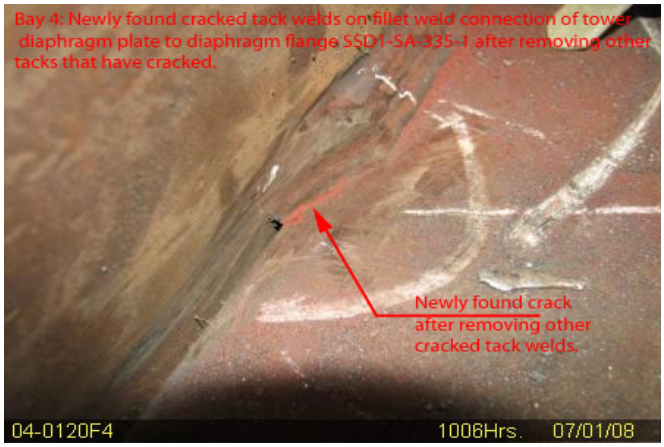
Bay 8: Tower Diaphragm
This QA Inspector randomly observed ZPMC welder Jiang Yong Sheng ID number 045240 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly ESD1-SA316 A/B-9A. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 215 amps, 25.6 volts with travel speed of 117mm/minute. Weld parameters appeared to comply with contract requirements.

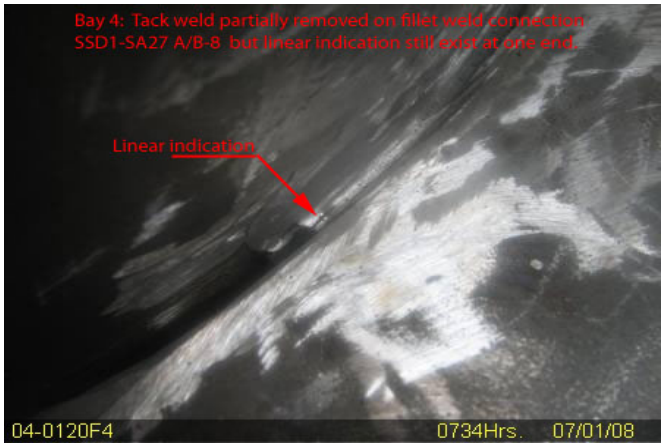
The QA Inspector randomly observed ZPMC welder Xu Pei Pei ID Number 050323, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-1, to weld the fill pass on plate splice butt joint of floor beam FB059-004-006. The QA Inspector randomly observed ZPMC CWI Lvliqing, monitoring weld parameters.

The QA Inspector randomly observed ZPMC welder Liu Yu Jun ID Number 202654, utilizing the Flux Cored Arc Welding (FCAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-B-U2-F, to weld the fill pass on PJP corner joint between flange and web plate on longitudinal shear plate LD001-001-012. The QA Inspector randomly observed ZPMC CWI Hu We Qing, monitoring weld parameters. FCAW(1F) fillet welding on flange to web plate (other side of PJP weld) of longitudinal shear plate LD004-011-011 by ZPMC welder Wang Chaili ID #045203 was also noted.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)





Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi 858-232-7081, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer